

MULTIPLE BLADDER INTERNAL TUBE EXPANSION AND METHOD

ABSTRACT

Method and apparatus for the production of a plurality of uniform expansions of a tube in a plurality of tube supports simultaneously. A plurality of tubes are expanded in apertures of tube supports in a repetitive manner, each tube being expanded into the plurality of tube supports simultaneously. The tube expander assembly, when positioned such that each bladder is centered on each land of the tube support surrounding the tube, will precisely control the degree (magnitude) of expansion of each tube against the tube support aperture by controlling the amount of applied hydraulic pressure applied to expandable bladders. The method and apparatus can also be used to expand a tube into the apertures of the tube sheet. This operation can be accomplished without removing the tube expander assembly from the tube. Ideally, the operation is accomplished simultaneously, but may be accomplished in sequential pressurizations.